ABSTRACT

The invention generally relates to cell-specific expression vectors. It particularly relates to targeted gene therapy using recombinant expression vectors and particularly adenovirus vectors. The invention specifically relates to replication-conditional expression vectors and methods for using them. Such vectors are able to selectively replicate in a target cell or tissue to provide a therapeutic benefit in a tissue from the presence of the vector *per se* or from one or more heterologous gene products expressed from the vector and distributed throughout the tissue. In such vectors, a gene essential for replication is placed under the control of a heterologous tissue-specific transcriptional regulatory sequence. Thus, replication is conditioned on the presence of a factor(s) that induces transcription or the absence of a factor(s) that inhibits transcription of the gene by means of the transcriptional regulatory sequence with this vector; therefore, a target tissue can be selectively treated.